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Potential Impact of Higher Food Prices on Poverty:

Summary Estimates for a Dozen West and Central African Countries

Quentin Wodon
Clarence Tsimpo
Prospere Backiny-Yetna
George Joseph
Franck Adoho
Harold Coulombe

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Abstract

Concerns have been raised about the impact of rising food prices worldwide on the poor. To assess the impact of rising food prices in any particular country it is necessary to look at both the impact on food producers who are poor or near-poor and could benefit from an increase in prices and food consumers who are poor or near-poor and would loose out when the price increases. In most West and Central African countries, the sign (positive or negative) of the impact is not ambiguous because a substantial share of food consumption is imported, so that the negative impact for consumers is larger than the positive impact for net sellers of locally produced foods. Yet even if the sign of the impact is clear, its magnitude is not. Using a set of recent and comprehensive household surveys, this paper summarizes findings from an assessment of the potential impact of higher food prices on the poor in a dozen countries. Rising food prices for rice, wheat, maize, and other cereals as well as for milk, sugar and vegetable oils could lead to a substantial increase in poverty in many of the countries. At the same time, the data suggest that the magnitude of the increase in poverty between different countries is likely to be different. Finally, the data suggest that a large share of the increase in poverty will consist of deeper levels of poverty among households who are already poor, even if there will also be a larger number of poor households in the various countries.

This paper—a product of the Development Dialogue on Values and Ethics, Human Development Network—is part of a larger study by the Africa Chief Economist Office and the Development Dialogue on Values and Ethics on the impact of the food price crisis in Africa and the policy responses available to governments. This research was started in the Africa PREM department and benefits from funding from the Africa Region Regional Studies Program as well as the Belgium and Luxemburg Poverty Reduction Partnerships. Policy Research Working Papers are also posted on the Web at http://econ.worldbank.org. The author may be contacted at qwodon@worldbank.org.

Potential Impact of Higher Food Prices on Poverty: Summary Estimates for a Dozen West and Central African Countries[1]

Quentin Wodon, Clarence Tsimpo, Prospere Backiny-Yetna,
George Joseph, Franck Adoho, and Harold Coulombe

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1. Introduction

The issue of the increase in food prices has received renewed attention in recent months as the increase in prices worldwide has had large negative impacts on households (e.g., Ivanic and Martin, 2007; World Bank, 2008a and 2008b; IMF, 2008; Wodon and Zaman, 2008). In West and Central Africa, prices for rice, maize and other cereals have increased substantially since the end of 2007. This has led the authorities as well as development partners in many countries to consider a range of compensatory measures that could help offset part of the negative impact on the poor of this increase in prices. However, at least from a conceptual point of view, the net impact of an increase in food prices on the poor is not obvious. Indeed, when discussing the link between rice and other cereal prices and poverty, a key issue is to assess the double and opposite impact that a change in prices can have for producers who are poor or near the poverty line (who benefit from an increase in prices) and consumers who are poor or near the poverty line (who lose out when the price increases).

The techniques for the analysis of the short term producer and consumer impacts of food commodity price changes are well developed in the literature. Early work in this area was conducted by Deaton (1989) using data from Thailand (see also Singh et al., 1986). Similar methods have been used in sub-Saharan Africa among others by Barrett and Dorosh (1996) for Madagascar, Budd (1993) for Cote d'Ivoire, and Loening and Oseni (2007) for Ethiopia. These are also the methods that we use in this paper, which summarizes the evidence on the impact of higher food prices on poverty obtained from a dozen country case studies for West and Central Africa. In all of these country case studies, we find that food price increases tend to lead to an increase in poverty because the consumption effects dominate the production effects as many countries are net importers of food.

There has also been a literature on assessing whether in the medium to long term, the increase in prices is compensated by an increase in wages, among others for those workers who contribute to the production of food crops (see for example Ravallion, 1990; Boyce and Ravallion, 1991, Rashid, 2002; Christaensen and Demery 2007; and Ivanic and Martin, 2007). The findings from these studies suggest that wage offset compensate only in a limited way for the initial increase in food prices. Finally, there has also been a substantial amount of work looking at the impact of various policies to deal with food production and prices. This can be illustrated with the case of rice. Indonesia is a country that used to import substantial amounts of

rice, but where restrictions were progressively placed on imports in order to help local producers, with imports of rice actually banned after 2004. Using a general equilibrium model, Warr (2005) find that the ban on rice imports raised the price of domestically produced rice, and that this led to an increase in poverty by almost one percentage point (on the Indonesia story as well as for a more general discussion on the experience of governments in Asia to stabilize the price of rice, see Timmer and Dawe, 2007; see also Ravallion and van de Walle, 1991). Another paper on Indonesia by (Sumarto et al., 2005) using panel data suggests that the practice of subsidizing rice as part of a social safety net led to a reduction in the risk for household to be poor. Papers on Vietnam by Niimi et al. (2004) and Minot and Goletti (2000) suggest that the liberalization of rice exports probably led to a reduction in poverty despite an increase in the price of rice in the country, thanks essentially to increased rice production.

In this paper (and in the more detailed country case studies that this paper summarizes), we focus however strictly on assessing what could be the short-term impact on poverty of the increase in the price of cereals as well as selected other food items in West and Central Africa. The impact of a change in the price of most food items is not ambiguous because most of the foods consumed are imported or produced from imported goods as in the case of bread. For these goods, an increase in price will tend to result in higher poverty in the countries as a whole (even if some local producers will gain from this increase). At the same time, the data suggest that the magnitude of the increase in poverty between different countries is likely to be different. Finally, the data suggest that a large share of the increase in poverty will consist of deeper levels of poverty among households who are already poor, even if there will also be a larger number of poor households in the countries.

The paper is structured as follows. Section 2 presents briefly our data sources as well as our methodology. In section 3, we provide estimates of the overall impact of higher food prices on poverty. A brief conclusion follows.

2. Methodology and Data

We consider here only the short term impact on poverty of higher food prices, as estimated by looking at the consumption and production of food by households. This means that we do not take into account potential medium to long term impacts arising for example from the fact that an increase in food prices may lead to higher wages for farm workers (as mentioned in

the introduction, findings from studies on medium term impacts suggest that wage gains compensate only in a very limited way only for the initial impact of food price shocks).

For the sake of simplicity, a number of assumptions have been used to provide the estimates or are implicit in the analysis. First, we assume that the cost of an increase in food prices for a household translates into an equivalent reduction of its consumption in real terms. This means that we do not take into account the price elasticity of demand which may lead to substitution effects and thereby help offset part of the negative effect of higher prices for certain food items. Similarly, an increase for producers in the value of their net sales of food translates into an increase of their consumption of equivalent size, and we again do not take into account the role that the price elasticity of supply may play here. As for food auto-consumed by producers (which represents a large share of total consumption), it is not taken into account in the simulations since changes in prices do not affect households when food is auto-consumed.

Poverty measures obtained after the increase in prices are then compared to baseline poverty measures to assess impacts. This implicitly means that we do not take into account the potential spill-over effects of the increase in food prices for the food items included in the analysis on the prices for items not included. Finally, for comparability purposes, all our simulations are based on the same price increases for all countries and all food items. In the more detailed country case studies, more information is provided in order to be able to look at the impact of different price increases, for example through interpolations.

We report the potential impacts of the higher food prices on three poverty measures: the headcount index, the poverty gap, and the squared poverty gap. As explained for example in Coudouel et al. (2002), the headcount index of poverty is simply the share of the population which is poor, i.e. the proportion of the population for whom consumption (per capita or per equivalent adult) y is less than the poverty line z. The poverty gap, which is often considered as representing the depth of poverty, is the mean distance separating the population from the poverty line, with the non-poor being given a distance of zero. The poverty gap is thus a measure of the poverty deficit of the entire population, where the notion of "poverty deficit" captures the resources that would be needed to lift all the poor out of poverty through perfectly targeted cash transfers. The squared poverty gap is often described as a measure of the severity of poverty. While the poverty gap takes into account the distance separating the poor from the poverty line, the squared poverty gap takes the square of that distance into account. When using

the squared poverty gap, the poverty gap is weighted by itself, so as to give more weight to the very poor. Said differently, the squared poverty gap takes into account the inequality among the poor. The headcount, the poverty gap, and the squared poverty gap are the first three measures of the FGT class of poverty measures (Foster et al., 1984). Denoting the poverty line by *z*, the consumption of the household per person or per equivalent adult by y_i, the total population size by *n*, and the number of the poor by *q*, the general formula for the FGT class of poverty measures with a parameter α taking a value of zero for the headcount, one for the poverty gap, and two for the squared poverty gap is as follows:

$$P\alpha = \frac{1}{n}\sum_{i=1}^{q}\left[\frac{z - y_i}{z}\right]^{\alpha}$$

While the emphasis in policy discussions is often placed on changes in the headcount index, it is important to use the poverty gap or the squared poverty gap in addition to the headcount for evaluation or simulation purposes. Indeed, basing an evaluation or simulation on the headcount index only would consider as more effective policies which lift the richest of the poor (those close to the line) out of poverty. On the basis of the poverty gap and the squared poverty gap on the other hand, puts the emphasis on helping those who are further away from the line, the poorest of the poor. The distinction between poverty measures matters also to assess where the increase in poverty is highest. We may for example have situations under which the increase in the headcount index of poverty is higher in urban than rural areas, while the reverse is true for the poverty gap or squared poverty gap. In general, it is better to rely on the analysis of changes in the poverty gap or squared poverty gap than the headcount index, because the headcount index does not take into account how poor people are, while the other two poverty measures do.

A difficult question is whether increases in consumer prices do translate into increases in producer prices. At least two factors may dilute the impact of rising food prices on the incomes of farmers. First, production costs for farmers as well as transport costs are likely to be rising due to higher costs for oil-related products. Second, market intermediaries may be able in some cases to keep a large share of the increase in consumer prices for themselves without paying farmers much more for their crops. Because it is difficult to assess whether producers will benefit substantially from higher food prices, especially in the short term, we consider our estimates obtained when considering only the impact on consumers as an upper bound of the

impact of the rise in prices on poverty, and we interpret the results obtained when factoring in a proportional increase in incomes for net sellers or producers as a lower bound of the impact.

Table 1 provides the countries for which the estimations have been prepared. The data have been collected from the most recent available household survey for each country. The survey years range from 2003 in Guinea to 2007 in Liberia, so the data can reasonably be considered as accurately capturing the current consumption patterns of the population in the respective countries. The table includes the list of food items considered for the analysis in each country. The analysis is focused for the most part on rice, flour and bread, maize, vegetable oil, sugar, and milk, because these are food items that tend to be imported to a substantial extent, so that likely poverty impacts may be substantial (since there are no compensating impacts on the producer side). In some countries however, we consider also additional items, such as cassava and plantain in the Democratic Republic of Congo.

The fact that we consider different food items for the simulations in different countries implies that the poverty impacts estimated need not be strictly comparable, as typically we would tend to have higher estimated impacts in countries where we consider a larger number of food items so that these food items typically represent a larger share of total consumption. Thus, we certainly do not claim comparability between countries, but nevertheless the analysis does suggest some interesting results, including differences between countries in terms of the rough magnitude of the impacts that could be expected. For example if countries are highly dependent on rice imports for their food consumption they may well suffer more from increases in prices.

Finally, we consider here the impact of an increase in food prices of 25 percent and 50 percent. To have some consistency in the results, the same price increases are considered for the various countries, even though the actual price increases may be different in the various countries. The detailed country papers provide more simulations with varying degrees of price increases. The idea in those detailed country papers is to provide a sufficient number of brackets of price increases so that it is easy to approximate the impact for different actual price increases in any given country at different points in time, taking into account changes in prices that may occur over time. While the poverty impacts need not be linear in the level of the price increase, they are nevertheless for practical purposes monotonic in most cases, so that they can still be roughly interpolated from generic data provided for various levels of price increases.

3. Empirical Results

3.1. Headcount index of poverty

Table 2 presents results regarding the impact on poverty of the increases in prices for the goods listed in table 1 by country, together with data on the share of total consumption represented by these goods. These shares of total consumption range from 6.5 percent in Togo to 28.3 percent in the Democratic Republic of Congo and even 41.0 percent in Niger. Yet for two thirds of the countries, the food items included in the simulations account for less than 15 percent of total consumption. The summary data on the impact on the headcount index of poverty (i.e., the share of the population in poverty) of the higher food prices is given for two levels of price increase: 25 percent and 50 percent. As mentioned earlier, the lower bound impact on poverty is obtained by combining the consumer and producer impact, while the upper bound impact factors in gains for net sellers of food. In two countries (Burkina Faso and Senegal), due to lack of appropriate data on agricultural production in the surveys, we compute only the upper bound estimates.

Consider the increase in poverty stemming from a 50 percent increase in prices. At the national level the upper bound estimates suggest that the increase in the headcount index of poverty varies from 1.8 percentage point in Ghana to 9.6 points in Senegal. The differences in impacts are due in part to the fact that the sets of goods considered for the simulations in the various countries represent different shares of total consumption. In Ghana the goods account for 7.7 percent of total consumption versus 20.5 percent in Senegal. If we look at the impact on poverty per percentage point of consumption accounted for by the food items included in the analysis, the poverty impact varies from 0.17 point in the DRC to 0.47 point in Senegal. If we were looking at the poverty gap measure of poverty, we would probably have a smaller range of impacts per percentage point of consumption included in the food items used for the simulations.

The impacts vary between countries, and between urban and rural areas within countries. In many countries, the poverty impacts are larger in percentage points in urban than in rural areas, but this is not always the case. In Ghana, Senegal, and Liberia, the poverty impact is actually larger in rural areas than in urban areas. In Ghana, this is essentially because poverty is low in urban areas in comparison to other countries. As Ghana's urban population is better off, only a small percentage of urban dwellers fall into poverty with the price shock. In Senegal and Liberia, this is in part because a large share of food consumption in the country is imported. This

in turn means that even the rural poor suffer a lot from the impact of the price shocks. When data are available for the capital city separately from other urban areas (in Senegal and Togo), we find that impacts are largest in urban areas outside of the capital city.

The average increase in the headcount of poverty with a 50 percent increase in prices is 4.4 percentage points when only the impact on the consumer side is taken into account. This falls to 2.5 percentage points when producer impacts are counted for. Figure 1 provides a comparison of the upper and lower bound estimates at the national level. The differences are smallest for Niger, Liberia, and Gabon. These are three countries with substantial net imports of food (Senegal is in a similar situation, but not shown on the Figure since we do not have lower bound estimates for that country). In addition, in Liberia and Niger, while local food production is important, much of this local production is auto-consumed, and thereby is taken into account neither in the upper nor in the lower bound poverty estimates. In urban areas (counting separately the capital city and other urban areas when the data are available to do so), the average upper bound impact across all countries is 5.2 percentage points, and this falls to 3.7 points with producer gains. This drop may appear to be large, but many urban households are net producers of food, especially outside of the capital cities. In rural areas, the average upper bound impact is 4.1 points, falling to 2.2 points when factoring in producer gains.

These impacts are large. For example, an average 3.5 percentage point impact at the national level for all of sub-Saharan Africa, which has a total population of more than 800 million, would imply that the food crisis could lead to an increase in poverty of close to 30 million persons. In addition, all households who are already in poverty would be even poorer as well, an issue to which we will turn in the next section.

In Figure 2, the upper bound impacts for the increase in the price of rice alone are provided. This is the only commodity which was included in all of the sets of food items considered for the twelve countries. It is an important commodity, especially in Liberia, Senegal, Guinea and Sierra Leone where it represents a very large share of the food basket of the population. Rice is also important because West and Central African countries are typically net importers (and in some countries such as Senegal, virtually all the rice consumed is imported), and the price of rice has increased very substantially in recent months. In addition, available data suggests that in those countries where both local and imported rice are consumed, the price of both types of rice move very closely together, so that an increase in the price of imported rice

does translate into an increase in the price of locally produced rice. As is clear from the data presented in Figure 2, a 50 percent increase in the price of rice alone could lead to an increase in the headcount of poverty of 2.2 percentage points in the countries in the sample, and much more in some cases. Importantly, the lower bound estimates for the impact of rice shocks are not much lower than the upper bound because much of the locally produced rice is auto-consumed in the countries that do produce rice.

3.2. Poverty gap and squared poverty gap

Tables 3 and 4 provide the impacts of the increase in food prices on the poverty gap and the squared poverty gaps. While for the headcount, the impact was often larger in urban areas than in rural areas, this is not the case for the poverty gap. In many countries, at least in terms of percentage points, the impact is now larger in rural than in urban areas, especially when looking at the upper bound impacts and the squared poverty gap. For example, in Burkina Faso, the upper bound increase in the headcount with a 50 percent increase in prices was at 2.8 percentage points in urban areas, versus 1.8 percentage point in rural areas. When using the poverty gap instead, the increase in rural areas at 1.1 percentage point is now larger than the increase in urban areas at 0.9 percentage point. With the squared poverty gap, the increase in rural areas at 0.6 percentage point is almost three times as large as the increase in urban areas, at 0.3 percentage points. Thus, even though the food price increase may generate in percentage terms a larger increase in the share of the poor in urban than in rural areas, the increase in poverty when one takes into account how far the poor are from the poverty line is larger in rural areas.

Considering the proportional changes in the poverty gap measures which are easier to interpret in intuitive terms than the changes in the squared poverty gap, we see that the increase in poverty is potentially large indeed. The poverty gap increases at the national level by two percent in the Democratic Republic of Congo (although this is from a very high base since this is the poorest country in the sample), six percent in Togo, seven percent in Burkina Faso and Ghana, eight percent in Guinea, Nigeria and Sierra Leone, 13 percent in Mali, 14 percent in Niger, 16 percent in Liberia, 17 percent in Gabon, and finally 31 percent in Senegal.

Another important finding is provided in tables 5 and 6, which give the shares of the increase in the poverty gap and the squared poverty gap that are due to an increase in how poor those who were initially poor before the shock are becoming due to the shock, as opposed to the

increase in the poverty gap or squared poverty gap that comes from household who have become poor, but were not poor before the shock. The findings are revealing: an overwhelming majority of the increase in the poverty gap and the squared poverty gap are due to higher levels of poverty among households who were already poor before the shock.

4. Conclusion

This paper has provided a summary of analytical work conducted at the country level on the potential impact of higher food prices on poverty in West and Central Africa. We find that with a 50 percent increase in prices for selected food items, the average increase in the share of the population in poverty would be between 2.5 and 4.4 percentage points. The average impact would be between 3.7 and 5.2 percentage points in urban areas, and between 2.2 and 4.1 points in rural areas. These impacts are large. If the impact is at about 3.5 percentage point for a typical country, in sub-Saharan Africa as a whole, the food price crisis could lead to close to 30 million additional persons falling into poverty. The impacts are even larger in proportionate terms if we consider the increase in the poverty gap or the squared poverty gap as opposed to the increase in the headcount index of poverty.

The empirical analysis also suggests that while the increase in the headcount index is often larger in urban than in rural areas, the reverse is true for the increase in the poverty gap and the squared poverty gap. Moreover, it can be shown that most of the increase in the poverty gap or squared poverty gap is due to an increase in how much poorer those who were already poor are becoming, as opposed to the contribution to poverty of the "new poor" due to the shock. This suggests that policy responses to the crisis may have to focus more on helping the poor who are being made even more vulnerable by the price increase, as opposed to focusing on the "new poor" due to the shock.

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Table 1: Food items considered for simulating the potential impact of higher food prices on poverty

Country	Household Survey	Food Items Taken into account for simulations
Burkina Faso	QUIBB, 2003	Rice, Bread, Vegetable oil and butter, Sugar, Milk
Dem. Rep. Congo	123 Survey, 2005	Rice, Cassava, Maize, Palm oil, Plantain, Wheat, Sugar, Milk
Ghana	GLSS, 2005-06	Rice, Bread, Flour, Maize
Gabon	CWIQ, 2005	Rice, Cassava, Maize, Wheat, Palm oil and groundnut oil
Guinea	EIBEP, 2002-03	Rice
Liberia	CWIQ , 2007	Rice (locally produced and imported)
Mali	ELIM, 2006	Rice, Millet, Maize, Wheat
Niger	QUIBB, 2005	Rice (locally produced and imported), Millet, Sorghum
Nigeria	NLSS, 2003-04	Rice, Corn, Maize, Wheat flour and bread, Cassava
Senegal	ESPS, 2006	Rice, Vegetable oil, Sugar, Bread, Milk
Sierra Leone	SLLS, 2003	Rice
Togo	QUIBB, 2006	Rice, Vegetable oil, Sugar, Bread, Milk

Source: Authors' estimation using respective household surveys.

Table 2: Potential Impact on Headcount Index of Poverty of Higher Food Prices in Africa

Country	Share in Consumption	Baseline Headcount	Upper bound Impact (Consumption) 25% increase	Upper bound Impact (Consumption) 50% increase	Lower Bound Impact (Cons. & Prod.) 25% increase	Lower Bound Impact (Cons. & Prod.) 50% increase
Burkina Faso Nat.	6.8	**46.4**	47.5	48.4	-	-
Burkina Faso Urban	6.0	**19.9**	21.4	22.7	-	-
Burkina Faso Rural	8.3	**52.3**	53.3	54.1	-	-
Ghana National	7.7	**28.5**	29.6	30.4	29.2	29.7
Ghana Urban	6.6	**10.7**	11.5	11.8	11.4	11.7
Ghana Rural	9.0	**39.3**	40.4	41.6	40.0	40.5
Liberia National	22.8	**63.8**	67.1	69.8	66.6	69.4
Liberia Urban	14.6	**55.1**	57.8	60.5	57.6	60.4
Liberia Rural	29.2	**67.7**	71.2	74.0	70.6	73.4
Senegal National	20.5	**50.8**	55.9	60.4	-	-
Senegal Dakar	15.8	**32.5**	37.4	41.2	-	-
Senegal Other Urban	22.3	**38.8**	43.9	50.2	-	-
Senegal Rural	24.9	**61.9**	67.1	71.4	-	-
Sierra Leone N	11.7	**66.4**	67.8	69.6	67.2	68.5
Sierra Leone U	6.4	**47.0**	48.6	51.4	48.5	50.9
Sierra Leone R	18.2	**78.6**	79.9	81.0	79.0	79.6
Togo National	6.5	**61.6**	62.7	63.7	62.6	63.6
Togo Lomé	5.6	**24.4**	24.9	25.8	24.9	25.8
Togo Other Urban	6.9	**54.5**	55.6	57.4	55.6	57.3
Togo Rural	7.1	**74.3**	75.4	76.4	75.4	76.3
RDC National	28.3	**71.3**	73.9	76.2	72.6	73.7
RDC Urban	23.5	**61.5**	65.1	68.4	64.9	68.1
RDC Rural	32.7	**75.7**	77.8	79.7	76.0	76.2
Guinea National	13.0	**49.1**	50.7	52.1	50.0	50.7
Guinea Urban	9.4	**23.5**	26.6	29.0	26.6	29.0
Guinea Rural	16.1	**59.9**	60.8	61.7	59.8	59.8
Gabon National	10.7	**32.7**	34.5	36.7	34.3	36.2
Gabon Urban	11.3	**29.8**	31.7	34.0	31.6	33.8
Gabon Rural	8.4	**44.6**	45.9	47.8	45.2	46.2
Mali National	13.4	**47.5**	50.1	52.8	49.2	50.9
Mali Urban	15.9	**25.5**	28.8	31.3	28.4	30.7
Mali Rural	11.9	**57.6**	60.0	62.7	58.8	60.3
Niger National	41.0	**62.1**	66.1	70.0	65.9	69.6
Niger Urban	26.1	**44.1**	47.4	51.8	47.4	51.8
Niger Rural	47.1	**65.7**	69.9	73.6	69.7	73.2
Nigeria National	9.80	**54.68**	56.20	57.77	55.19	55.65
Nigeria Urban	11.48	**43.13**	45.06	47.14	43.81	44.48
Nigeria Rural	8.22	**63.80**	65.00	66.16	64.18	64.46

Source: Authors' estimation using respective household surveys.

Table 3: Potential Impact on Poverty Gap of Higher Food Prices in Africa

Country	Share in Consumption	Baseline Poverty Gap	Upper bound Impact (Consumption) 25% increase	Upper bound Impact (Consumption) 50% increase	Lower Bound Impact (Cons. & Prod.) 25% increase	Lower Bound Impact (Cons. & Prod.) 50% increase
Burkina Faso Nat.	6.8	**15.6**	16.1	16.7	-	-
Burkina Faso Urban	6.0	**5.5**	5.9	6.4	-	-
Burkina Faso Rural	8.3	**17.9**	18.4	19.0	-	-
Ghana National	7.7	**9.6**	9.9	10.3	9.7	9.9
Ghana Urban	6.6	**3.1**	3.3	3.4	3.2	3.4
Ghana Rural	9.0	**13.5**	14.0	14.4	13.7	13.9
Liberia National	22.8	**24.4**	26.3	28.3	26.2	28.1
Liberia Urban	14.6	**20.2**	22.0	23.8	21.9	23.8
Liberia Rural	29.2	**26.3**	28.2	30.3	28.1	30.0
Senegal National	20.5	**16.4**	18.8	21.5	-	-
Senegal Dakar	15.8	**8.3**	9.7	11.4	-	-
Senegal Other Urban	22.3	**10.8**	12.9	15.4	-	-
Senegal Rural	24.9	**21.5**	24.4	27.6	-	-
Sierra Leone N	11.7	**27.5**	28.6	29.7	28.1	28.7
Sierra Leone U	6.4	**16.3**	17.1	17.9	16.9	17.6
Sierra Leone R	18.2	**34.6**	35.8	37.1	35.1	35.6
Togo National	6.5	**22.9**	23.5	24.2	23.5	24.1
Togo Lomé	5.6	**5.8**	6.1	6.4	6.1	6.4
Togo Other Urban	6.9	**16.8**	17.4	18.2	17.4	18.1
Togo Rural	7.1	**29.3**	30.1	30.8	30.0	30.7
RDC National	28.3	**32.2**	32.4	32.7	32.3	32.5
RDC Urban	23.5	**26.2**	26.5	26.9	26.5	26.9
RDC Rural	32.7	**34.9**	35.1	35.2	34.9	35.0
Guinea National	13.0	**17.2**	17.9	18.6	17.3	17.6
Guinea Urban	9.4	**6.1**	6.8	7.7	6.8	7.7
Guinea Rural	16.1	**21.9**	22.5	23.2	21.7	21.7
Gabon National	10.7	**10.0**	10.8	11.7	10.7	11.5
Gabon Urban	11.3	**8.5**	9.4	10.3	9.3	10.2
Gabon Rural	8.4	**16.0**	16.7	17.5	16.4	17.0
Mali National	13.4	**16.7**	17.6	18.8	17.1	17.8
Mali Urban	15.9	**7.8**	8.6	9.8	8.5	9.5
Mali Rural	11.9	**20.8**	21.8	22.9	21.1	21.6
Niger National	41.0	**25.9**	26.6	29.6	26.5	29.4
Niger Urban	26.1	**15.3**	17.6	20.2	17.6	20.1
Niger Rural	47.1	**25.9**	28.5	31.5	28.3	31.2
Nigeria National	9.80	**22.5**	23.3	24.2	16.6	17.0
Nigeria Urban	11.48	**17.0**	17.8	18.7	17.3	17.6
Nigeria Rural	8.22	**26.8**	27.6	28.4	27.0	27.3

Source: Authors' estimation using respective household surveys.

Table 4: Potential Impact on Squared Poverty Gap of Higher Food Prices in Africa

Country	Share in Consumption	Baseline Squared Poverty Gap	Upper bound Impact (Consumption) 25% increase	Upper bound Impact (Consumption) 50% increase	Lower Bound Impact (Cons. & Prod.) 25% increase	Lower Bound Impact (Cons. & Prod.) 50% increase
Burkina Faso Nat.	6.8	**7.1**	7.4	7.7	-	-
Burkina Faso Urban	6.0	**2.2**	2.3	2.5	-	-
Burkina Faso Rural	8.3	**8.2**	8.5	8.8	-	-
Ghana National	7.7	**4.6**	4.8	5.0	4.7	4.8
Ghana Urban	6.6	**1.3**	1.4	1.5	1.4	1.4
Ghana Rural	9.0	**6.6**	6.8	7.1	6.7	6.8
Liberia National	22.8	**12.7**	13.8	15.1	13.7	15.0
Liberia Urban	14.6	**10.4**	11.5	12.7	11.5	12.7
Liberia Rural	29.2	**13.7**	14.8	16.2	14.8	16.0
Senegal National	20.5	**7.5**	8.8	10.4	-	-
Senegal Dakar	15.8	**3.0**	3.7	4.4	-	-
Senegal Other Urban	22.3	**4.5**	5.4	6.7	-	-
Senegal Rural	24.9	**10.2**	11.9	13.9	-	-
Sierra Leone N	11.7	**14.4**	15.2	16.0	14.8	15.2
Sierra Leone U	6.4	**7.6**	8.0	8.6	7.9	8.3
Sierra Leone R	18.2	**18.7**	19.7	20.6	19.1	19.6
Togo National	6.5	**11.0**	11.4	11.8	11.3	11.7
Togo Lomé	5.6	**2.1**	2.2	2.3	2.2	2.3
Togo Other Urban	6.9	**7.0**	7.4	7.8	7.4	7.7
Togo Rural	7.1	**14.5**	14.9	15.4	14.9	15.3
RDC National	28.3	**18.0**	18.2	18.3	18.1	18.2
RDC Urban	23.5	**14.1**	14.3	14.6	14.3	14.6
RDC Rural	32.7	**19.8**	19.9	20.0	19.8	19.8
Guinea National	13.0	**8.1**	8.5	8.9	8.2	8.3
Guinea Urban	9.4	**2.4**	2.7	3.1	2.7	3.1
Guinea Rural	16.1	**10.5**	10.9	11.3	10.4	10.5
Gabon National	10.7	**4.3**	4.7	5.2	4.7	5.1
Gabon Urban	11.3	**3.5**	3.9	4.4	3.9	4.3
Gabon Rural	8.4	**7.5**	8.0	8.4	7.8	8.1
Mali National	13.4	**8.0**	8.5	9.1	8.2	8.5
Mali Urban	15.9	**3.3**	3.7	4.2	3.7	4.1
Mali Rural	11.9	**10.2**	10.7	11.3	10.3	10.5
Niger National	41.0	**13.3**	13.8	15.8	13.8	15.7
Niger Urban	26.1	**7.3**	8.6	10.3	8.6	10.3
Niger Rural	47.1	**13.3**	14.9	17.0	14.8	16.8
Nigeria National	9.80	**12.2**	12.7	13.2	7.9	8.1
Nigeria Urban	11.48	**9.2**	9.6	10.1	9.3	9.5
Nigeria Rural	8.22	**14.6**	15.1	15.6	14.7	14.9

Source: Authors' estimation using respective household surveys.

Table 5: Share of increase in poverty gap due to deeper poverty among those initially poor

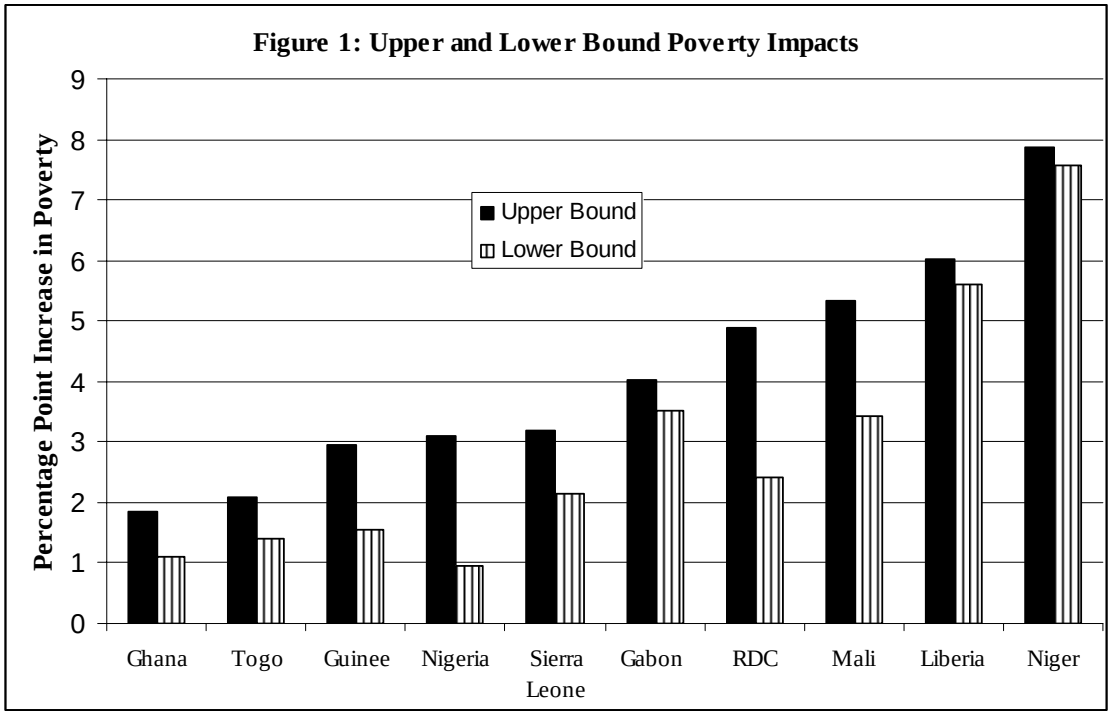
Country	Upper bound Impact (Consumption) 25% increase	Upper bound Impact (Consumption) 50% increase	Lower Bound Impact (Cons. & Prod.) 25% increase	Lower Bound Impact (Cons. & Prod.) 50% increase
Burkina Faso Nat.	96.7	93.4	-	-
Burkina Faso Urban	89.6	83.2	-	-
Burkina Faso Rural	97.8	95.2	-	-
Ghana National	96.2	92.3	92.5	86.3
Ghana Urban	93.4	88.0	92.6	86.7
Ghana Rural	96.8	93.4	92.5	86.1
Liberia National	94.9	90.2	94.8	90.2
Liberia Urban	96.4	93.1	96.4	93.0
Liberia Rural	94.2	89.0	94.1	89.0
Senegal National	93.3	86.9	-	-
Senegal Dakar	91.4	83.6	-	-
Senegal Other Urban	91.1	83.5	-	-
Senegal Rural	94.2	88.4	-	-
Sierra Leone N	97.1	94.9	95.9	92.8
Sierra Leone U	95.6	92.1	94.8	91.1
Sierra Leone R	97.8	96.1	96.8	94.2
Togo National	98.4	96.8	98.3	96.6
Togo Lomé	98.6	95.7	98.6	95.7
Togo Other Urban	98.6	96.7	98.5	96.6
Togo Rural	98.4	96.9	98.3	96.7
RDC National	95.1	90.4	111.0	136.0
RDC Urban	94.9	89.9	95.5	91.1
RDC Rural	95.3	90.8	102.8	106.5
Guinea National	94.4	89.3	70.7	60.9
Guinea Urban	90.9	84.0	90.8	83.8
Guinea Rural	96.1	92.1	115.6	160.1
Gabon National	95.4	90.7	95.1	90.1
Gabon Urban	94.9	90.0	94.7	89.5
Gabon Rural	97.6	93.8	97.7	94.0
Mali National	89.9	82.3	81.1	71.3
Mali Urban	87.4	77.9	86.2	76.7
Mali Rural	91.0	84.2	75.3	66.1
Niger National	70.6	75.9	65.3	74.6
Niger Urban	93.6	87.1	93.5	87.0
Niger Rural	91.2	83.2	90.8	82.5
Nigeria National	96.0	91.8	94.1	88.7
Nigeria Urban	94.6	88.8	94.3	88.7
Nigeria Rural	97.3	94.4	93.8	88.7

Source: Authors' estimation using respective household surveys.

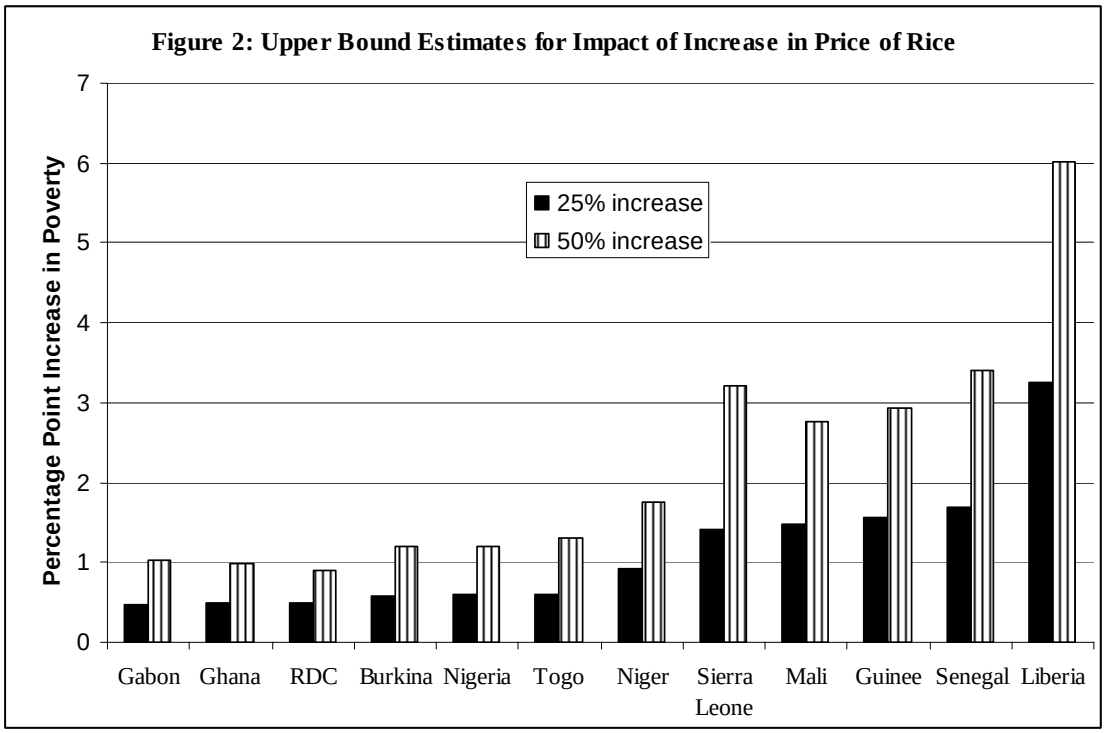
Table 6: Share of increase in squared poverty gap due to deeper poverty among those initially poor

Country	Upper bound Impact (Consumption) 25% increase	Upper bound Impact (Consumption) 50% increase	Lower Bound Impact (Cons. & Prod.) 25% increase	Lower Bound Impact (Cons. & Prod.) 50% increase
Burkina Faso Nat.	99.8	99.2	-	-
Burkina Faso Urban	98.8	96.4	-	-
Burkina Faso Rural	99.9	99.6	-	-
Ghana National	99.8	99.3	99.7	98.7
Ghana Urban	99.6	98.4	99.6	98.3
Ghana Rural	99.9	99.4	99.7	98.8
Liberia National	99.6	98.5	99.6	98.5
Liberia Urban	99.8	99.2	99.8	99.2
Liberia Rural	99.5	98.1	99.5	98.2
Senegal National	99.4	97.7	-	-
Senegal Dakar	99.3	97.2	-	-
Senegal Other Urban	99.1	96.8	-	-
Senegal Rural	99.5	98.0	-	-
Sierra Leone N	99.9	99.6	99.8	99.5
Sierra Leone U	99.7	99.2	99.7	99.1
Sierra Leone R	99.9	99.7	99.9	99.6
Togo National	100.0	99.9	100.0	99.8
Togo Lomé	100.0	99.8	100.0	99.8
Togo Other Urban	100.0	99.9	100.0	99.9
Togo Rural	100.0	99.9	100.0	99.8
RDC National	99.6	98.4	100.8	107.8
RDC Urban	99.6	98.4	99.7	98.8
RDC Rural	99.6	98.4	100.2	101.2
Guinea National	99.6	98.4	96.1	93.0
Guinea Urban	99.3	97.5	99.3	97.5
Guinea Rural	99.7	98.7	101.2	116.3
Gabon National	99.7	98.7	99.7	98.6
Gabon Urban	99.6	98.5	99.6	98.5
Gabon Rural	99.9	99.5	99.9	99.4
Mali National	98.9	96.0	97.2	92.3
Mali Urban	98.6	94.8	98.4	94.6
Mali Rural	99.0	96.5	94.9	89.9
Niger National	96.9	94.0	96.5	93.7
Niger Urban	99.3	97.4	99.4	97.4
Niger Rural	98.8	95.4	98.8	95.2
Nigeria National	99.7	99.0	99.6	98.4
Nigeria Urban	99.6	98.3	99.5	98.3
Nigeria Rural	99.9	99.4	99.6	98.7

Source: Authors' estimation using respective household surveys.



Source: Authors' estimation using respective household surveys.



Source: Authors' estimation using respective household surveys.

Annex 1: Burkina Faso - Detailed results for impact of food price increase on headcount index in sample of West and Central African Countries

Food item	Share in total consumption	Proportion of Consumers	Baseline Headcount	25% increase Upper bound Impact (Cons. only)	50% increase Upper bound Impact (Cons. only)	25% increase Lower bound Impact (Cons. & Prod.)	50% increase Lower bound Impact (Cons. & Prod.)
			Burkina National				
Rice	3.6	60.2	**46.4**	47.0	47.6		
Bread	0.7	35.6		46.4	46.4		
Oil, butter	1.1	74.9		46.6	46.8		
Sugar	0.9	67.4		46.6	46.7		
Milk	0.6	18.1		46.4	46.4		
All	6.8	91.9		47.5	48.4		
			Burkina Urban				
Rice	2.9	53.7	**19.9**	20.9	21.9		
Bread	0.4	29.6		20.0	20.1		
Oil, butter	1.1	72.3		20.1	20.3		
Sugar	1.0	65.5		20.0	20.2		
Milk	0.6	15.4		19.9	19.9		
All	6.0	91.1		21.4	22.7		
			Burkina Rural				
Rice	4.8	84.8	**52.3**	52.8	53.3		
Bread	1.1	58.5		52.3	52.3		
Oil, butter	1.2	85.0		52.5	52.6		
Sugar	0.7	74.5		52.5	52.6		
Milk	0.6	28.3		52.3	52.3		
All	8.3	94.6		53.3	54.1		

Source: Authors' estimation using country household survey data

Annex 2: DRC - Detailed results for impact of food price increase on headcount index in sample of West and Central African Countries

Food item	Share in total consumption	Proportion of Consumers	Baseline Headcount	25% increase Upper bound Impact (Cons. only)	50% increase Upper bound Impact (Cons. only)	25% increase Lower bound Impact (Cons. & Prod.)	50% increase Lower bound Impact (Cons. & Prod.)
			Democratic Republic of Congo National				
Rice	3.2	57.3	**71.3**	71.8	72.2	71.7	71.9
Cassava	10.2	91.9		71.8	72.3	71.6	71.8
Maize	5.9	50.7		72.0	72.6	71.5	71.6
Palm oil	4.0	96.2		71.9	72.4	71.6	71.8
Plantain	1.1	30.0		71.4	71.4	71.3	71.3
Wheat	1.8	35.1		71.6	71.7	71.6	71.7
Sugar	1.4	57.4		71.6	71.7	71.6	71.7
Milk	0.7	23.0		71.4	71.5	71.4	71.5
All	28.3	100.0		73.9	76.2	72.6	73.7
			Democratic Republic of Congo Urban				
Rice	3.3	77.2	**61.5**	62.2	62.9	62.2	62.9
Cassava	5.5	89.4		62.3	63.4	62.2	63.2
Maize	6.3	78.7		62.2	63.0	62.1	62.9
Palm oil	2.6	96.1		62.0	62.4	62.0	62.4
Plantain	0.3	14.4		61.5	61.5	61.5	61.5
Wheat	3.0	70.2		62.0	62.3	62.0	62.3
Sugar	1.4	79.5		61.9	62.0	61.9	62.0
Milk	1.0	50.0		61.6	61.7	61.6	61.7
All	23.5	100.0		65.1	68.4	64.9	68.1
			Democratic Republic of Congo Rural				
Rice	3.0	49.7	**75.7**	76.0	76.2	75.8	75.9
Cassava	14.5	92.8		76.0	76.3	75.7	75.6
Maize	5.6	39.9		76.3	76.8	75.7	75.4
Palm oil	5.3	96.2		76.3	76.8	75.9	76.0
Plantain	1.9	36.1		75.7	75.8	75.6	75.6
Wheat	0.7	21.5		75.8	75.9	75.8	75.9
Sugar	1.4	48.9		75.9	76.0	75.9	76.0
Milk	0.4	12.5		75.8	75.8	75.8	75.8
All	32.7	100.0		77.8	79.7	76.0	76.2

Source: Authors' estimation using country household survey data

Annex 3: Gabon - Detailed results for impact of food price increase on headcount index in sample of West and Central African Countries

Food item	Share in total consumption	Proportion of Consumers	Baseline Headcount	25% increase Upper bound Impact (Cons. only)	50% increase Upper bound Impact (Cons. only)	25% increase Lower bound Impact (Cons. & Prod.)	50% increase Lower bound Impact (Cons. & Prod.)
			Gabon National				
Rice	3.0	91.4	**32.7**	33.2	33.8	33.2	33.8
Casava	1.9	86.4		33.0	33.2	32.8	33.0
Maize	0.3	40.0		32.7	32.7	32.7	32.7
Wheat	3.9	93.5		33.4	34.2	33.4	34.2
Palm oil and groundnut oil	1.7	90.6		33.0	33.2	33.0	33.2
All	10.7	97.3		34.5	36.7	34.3	36.2
			Gabon Urban				
Rice	3.1	92.1	**29.8**	30.3	30.9	30.3	30.9
Casava	2.1	84.1		30.1	30.4	30.0	30.3
Maize	0.3	33.5		29.8	29.8	29.8	29.8
Wheat	4.2	94.8		30.5	31.4	30.5	31.4
Palm oil and groundnut oil	1.6	90.1		30.0	30.3	30.0	30.3
All	11.3	97.1		31.7	34.0	31.6	33.8
			Gabon Rural				
Rice	2.5	88.5	**44.6**	44.9	45.1	44.9	45.1
Casava	1.0	95.7		44.6	44.7	44.2	44.0
Maize	0.2	65.8		44.6	44.6	44.6	44.5
Wheat	2.9	87.9		45.1	45.8	45.1	45.8
Palm oil and groundnut oil	2.0	92.6		44.8	44.9	44.8	44.8
All	8.4	98.2		45.9	47.8	45.2	46.2

Source: Authors' estimation using country household survey data

Annex 4: Ghana - Detailed results for impact of food price increase on headcount index in sample of West and Central African Countries

Food item	Share in total consumption	Proportion of Consumers	Baseline Headcount	25% increase Upper bound Impact (Cons. only)	50% increase Upper bound Impact (Cons. only)	25% increase Lower bound Impact (Cons. & Prod.)	50% increase Lower bound Impact (Cons. & Prod.)
			Ghana National				
Rice	3.1	74.6	**28.5**	29.0	29.5	29.0	29.4
Bread	1.9	84.6		28.9	29.2		
Flour	0.0	2.8		28.5	28.5		
Maize	2.7	66.9		28.8	29.0	28.3	28.2
All	7.7	96.3		29.6	30.4	29.2	29.7
			Ghana Urban				
Rice	3.0	74.7	**10.7**	11.2	11.4	11.0	11.2
Bread	2.0	91.4		11.1	11.2		
Flour	0.0	2.6		10.7	10.7		
Maize	1.6	59.5		11.0	11.3	10.8	11.0
All	6.6	96.8		11.5	11.8	11.4	11.7
			Ghana Rural				
Rice	3.2	74.4	**39.3**	39.8	40.5	39.8	40.4
Bread	1.7	79.4		39.7	40.1		
Flour	0.1	2.9		39.3	39.3		
Maize	4.1	72.6		39.5	39.8	38.9	38.7
All	9.0	95.9		40.4	41.6	40.0	40.5

Source: Authors' estimation using country household survey data

Annex 5: Guinea - Detailed results for impact of food price increase on headcount index in sample of West and Central African Countries

Food item	Share in total consumption	Proportion of Consumers	Baseline Headcount	25% increase Upper bound Impact (Cons. only)	50% increase Upper bound Impact (Cons. only)	25% increase Lower bound Impact (Cons. & Prod.)	50% increase Lower bound Impact (Cons. & Prod.)
			Guinea National				
Rice	13.0	90.7	**49.1**	50.7	52.1	50.0	50.7
			Guinea Urban				
Rice	9.4	89.9	**23.5**	26.6	29.0	26.6	29.0
			Guinea Rural				
Rice	16.1	91.0	**59.9**	60.8	61.7	59.8	59.8

Source: Authors' estimation using country household survey data

Annex 6: Liberia - Detailed results for impact of food price increase on headcount index in sample of West and Central African Countries

Food item	Share in total consumption	Proportion of Consumers	Baseline Headcount	25% increase Upper bound Impact (Cons. only)	50% increase Upper bound Impact (Cons. only)	25% increase Lower bound Impact (Cons. & Prod.)	50% increase Lower bound Impact (Cons. & Prod.)
				Liberia National			
Local Rice	9.6	60.1	**63.8**	64.3	64.8	63.9	64.3
Imported Rice	13.2	84.9		66.6	69.0		
All	22.8	99.0		67.1	69.8	66.6	69.4
				Liberia Urban			
Local Rice	1.1	17.1	**55.1**	55.2	55.3	55.1	55.2
Imported Rice	13.5	97.3		57.6	60.3		
All	14.6	98.6		57.8	60.5	57.6	60.4
				Liberia Rural			
Local Rice	16.2	80.0	**67.7**	68.4	69.0	67.8	68.4
Imported Rice	12.9	79.2		70.6	72.8		
All	29.2	99.2		71.2	74.0	70.6	73.4

Source: Authors' estimation using country household survey data

Annex 7: Mali - Detailed results for impact of food price increase on headcount index in sample of West and Central African Countries

Food item	Share in total consumption	Proportion of Consumers	Baseline Headcount	25% increase Upper bound Impact (Cons. only)	50% increase Upper bound Impact (Cons. only)	25% increase Lower bound Impact (Cons. & Prod.)	50% increase Lower bound Impact (Cons. & Prod.)
			Mali National				
Rice	7.2	95.1	**47.5**	48.9	50.2	48.3	49.1
Corn	4.2	91.0		48.2	49.4	47.9	48.8
Maize	0.6	48.1		47.5	47.6	47.4	47.4
Wheat	1.5	74.0		47.6	47.8	47.6	47.8
All	13.4	99.4		50.1	52.8	49.2	50.9
			Mali Urban				
Rice	9.6	96.0	**25.5**	27.4	29.0	27.3	28.6
Corn	3.6	88.4		25.8	27.1	25.7	27.0
Maize	0.8	42.0		25.6	25.8	25.4	25.5
Wheat	1.9	83.6		25.7	25.9	25.7	25.9
All	15.9	99.4		28.8	31.3	28.4	30.7
			Mali Rural				
Rice	5.7	94.6	**57.6**	58.9	60.1	58.1	58.6
Corn	4.5	92.7		58.6	59.7	58.2	58.9
Maize	0.4	51.7		57.7	57.7	57.6	57.5
Wheat	1.3	68.2		57.8	57.9	57.8	57.9
All	11.9	99.8		60.0	62.7	58.8	60.3

Source: Authors' estimation using country household survey data

Annex 8: Niger - Detailed results for impact of food price increase on headcount index in sample of West and Central African Countries

Food item	Share in total consumption	Proportion of Consumers	Baseline Headcount	25% increase Upper bound Impact (Cons. only)	50% increase Upper bound Impact (Cons. only)	25% increase Lower bound Impact (Cons. & Prod.)	50% increase Lower bound Impact (Cons. & Prod.)
			Niger National				
Rice Imported	4.4	54.7	**62.1**	62.8	63.6	62.7	63.5
Rice local	1.7	15.4		62.2	62.3	62.2	62.3
Total riz	6.1	67.7		63.0	63.8	62.9	63.8
Millet & Sorghum	30.6	94.2		64.5	67.2	64.4	67.1
Maize	4.3	30.4		62.5	63.0	62.5	63.0
All	41.0	98.5		66.1	70.0	65.9	69.6
			Niger Urban				
Rice Imported	7.8	85.1	**44.1**	45.5	47.0	45.5	47.0
Rice local	1.0	11.2		44.4	44.5	44.3	44.4
Total riz	8.9	92.6		45.8	47.4	45.8	47.4
Millet & Sorghum	11.5	78.0		45.1	46.1	45.1	46.1
Maize	5.8	61.7		44.9	46.1	44.9	46.1
All	26.1	97.0		47.4	51.8	47.4	51.8
			Niger Rural				
Rice Imported	3.1	48.5	**65.7**	66.3	66.9	66.2	66.8
Rice local	2.0	16.2		65.8	65.9	65.8	65.9
Total riz	5.0	62.6		66.5	67.1	66.4	67.1
Millet & Sorghum	38.4	97.5		68.4	71.5	68.3	71.3
Maize	3.7	24.0		66.1	66.4	66.1	66.4
All	47.1	98.9		69.9	73.6	69.7	73.2

Source: Authors' estimation using country household survey data

Annex 9: Nigeria - Detailed results for impact of food price increase on headcount index in sample of West and Central African Countries

Food item	Share in total consumption	Proportion of Consumers	Baseline Headcount	25% increase Upper bound Impact (Cons. only)	50% increase Upper bound Impact (Cons. only)	25% increase Lower bound Impact (Cons. & Prod.)	50% increase Lower bound Impact (Cons. & Prod.)
			Nigeria National				
Rice	0.04	0.73	**54.68**	55.28	55.88	55.19	55.65
Corn and cornflour	0.01	0.35		54.81	54.88	54.65	54.57
Maize and Maize flour	0.01	0.42		54.86	55.03	54.73	54.80
Wheat flour and bread	0.01	0.70		54.90	55.12	54.90	55.12
cassava	0.03	0.65		55.10	55.42	55.07	55.35
All	0.10	0.95		56.20	57.77	55.19	55.65
			Nigeria Urban				
Rice	0.05	0.72	**43.13**	43.83	44.56	43.81	44.48
Corn and cornflour	0.01	0.23		43.26	43.30	43.19	43.20
Maize and Maize flour	0.01	0.42		43.38	43.61	43.37	43.54
Wheat flour and bread	0.02	0.77		43.38	43.65	43.38	43.65
cassava	0.03	0.65		43.62	43.95	43.60	43.91
All	0.11	0.93		45.06	47.14	43.81	44.48
			Nigeria Rural				
Rice	3.73	74.78	**63.80**	64.32	64.81	64.18	64.46
Corn and cornflour	0.75	44.90		63.92	64.02	63.69	63.54
Maize and Maize flour	0.59	41.93		63.92	64.05	63.71	63.69
Wheat flour and bread	1.17	64.73		64.00	64.18	64.00	64.18
cassava	1.99	65.11		64.16	64.46	64.12	64.37
All	8.22	97.35		65.00	66.16	64.18	64.46

Source: Authors' estimation using country household survey data

Annex 10: Senegal - Detailed results for impact of food price increase on headcount index in sample of West and Central African Countries

Food item	Share in total consumption	Proportion of Consumers	Baseline Headcount	25% increase Upper bound Impact (Cons. only)	50% increase Upper bound Impact (Cons. only)	25% increase Lower bound Impact (Cons. & Prod.)	50% increase Lower bound Impact (Cons. & Prod.)
			Senegal National				
Rice	6.8	96.3	**50.8**	52.5	54.2		
Huiles végétales	4.5	95.8		51.6	52.7		
Sucre	3.0	99.2		51.4	52.1		
Bread	4.0	92.7		51.5	52.4		
Milk	2.1	79.6		51.1	51.4		
All	20.5	99.8		55.9	60.4		
			Senegal Dakar				
Rice	4.5	95.4	**32.5**	33.8	35.5		
Huiles végétales	3.2	95.7		33.3	33.9		
Sucre	1.8	99.6		33.1	33.7		
Bread	3.9	98.9		33.4	34.6		
Milk	2.5	99.4		33.1	33.5		
All	15.8	99.9		37.4	41.2		
			Senegal Other Urban Areas				
Rice	6.9	94.2	**38.8**	40.7	42.2		
Huiles végétales	4.8	94.7		39.5	41.1		
Sucre	3.0	99.3		39.5	40.7		
Bread	5.0	96.5		39.9	41.5		
Milk	2.6	96.0		39.2	39.5		
All	22.3	99.8		43.9	50.2		
			Senegal Rural				
Rice	9.4	97.4	**61.9**	63.8	65.6		
Huiles végétales	5.8	96.2		62.9	64.0		
Sucre	4.5	98.8		62.5	63.2		
Bread	3.8	88.2		62.5	63.0		
Milk	1.4	63.6		62.1	62.4		
All	24.9	99.7		67.1	71.4		

Source: Authors' estimation using country household survey data

Annex 11: Sierra Leone - Detailed results for impact of food price increase on headcount index in sample of West and Central African Countries

Food item	Share in total consumption	Proportion of Consumers	Baseline Headcount	25% increase Upper bound Impact (Cons. only)	50% increase Upper bound Impact (Cons. only)	25% increase Lower bound Impact (Cons. & Prod.)	50% increase Lower bound Impact (Cons. & Prod.)
			Sierra Leone National				
Rice	11.7	96.4	**66.4**	67.8	69.6	67.2	68.5
			Sierra Leone Urban				
Rice	6.4	94.5	**47.0**	48.6	51.4	48.5	50.9
			Sierra Leone Rural				
Rice	18.2	97.7	**78.6**	79.9	81.0	79.0	79.6

Source: Authors' estimation using country household survey data

Annex 12: Togo - Detailed results for impact of food price increase on headcount index in sample of West and Central African Countries

Food item	Share in total consumption	Proportion of Consumers	Baseline Headcount	25% increase Upper bound Impact (Cons. only)	50% increase Upper bound Impact (Cons. only)	25% increase Lower bound Impact (Cons. & Prod.)	50% increase Lower bound Impact (Cons. & Prod.)
			Togo National				
Rice	3.5	92.2	**61.6**	62.2	62.9	62.2	62.8
Bread	0.6	27.0		61.7	61.8		
Milk	0.7	31.1		61.7	61.8		
Huiles	1.1	81.3		61.8	62.0		
Sugar	0.7	72.3		61.8	61.9		
All	6.5	97.4		62.7	63.7	62.6	63.6
			Togo Lomé				
Rice	2.5	93.3	**24.4**	24.8	25.2	24.8	25.2
Bread	0.9	50.5		24.5	24.5		
Milk	0.9	56.0		24.5	24.5		
Huiles	0.7	91.3		24.5	24.6		
Sugar	0.5	86.3		24.4	24.5		
All	5.6	97.3		24.9	25.8	24.9	25.8
			Togo Other Urban Areas				
Rice	3.7	95.2	**54.5**	55.1	56.1	55.1	56.1
Bread	0.4	24.3		54.6	54.6		
Milk	0.7	34.5		54.6	54.7		
Huiles	1.3	89.3		54.8	55.0		
Sugar	0.7	73.3		54.8	54.8		
All	6.9	99.0		55.6	57.4	55.6	57.3
			Togo Rural				
Rice	4.3	91.1	**74.3**	75.0	75.6	74.9	75.5
Bread	0.3	19.3		74.3	74.5		
Milk	0.4	21.3		74.4	74.5		
Huiles	1.4	75.8		74.5	74.7		
Sugar	0.8	67.1		74.4	74.6		
All	7.1	97.1		75.4	76.4	75.4	76.3

Source: Authors' estimation using country household survey data